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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,322	10/16/2003	Robert Urscheler	62738C	8774
109	7590	08/28/2006		
THE DOW CHEMICAL COMPANY INTELLECTUAL PROPERTY SECTION, P. O. BOX 1967 MIDLAND, MI 48641-1967				
			EXAMINER FORTUNA, JOSE A	
			ART UNIT 1731	PAPER NUMBER

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/687,322	Applicant(s) URSCHELER ET AL.	
	Examiner José A. Fortuna	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/05/8/05/5/05/4/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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2. Claims 1-37 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10, 17-43, 45-60, 62, 64-72 and 74-82 of copending Application No. 10/257,172. The difference in scope between the claims of the copending applications is the limitation of the viscosity of the coating layers. However, applicants admit that the high solid content pigments coating composition have viscosity within the claimed range, see paragraph bridging pages 3 and 4 of the present application and therefore, the viscosity of the coating agent of the copending application is within the claimed range or at least the modification of the viscosity would have been obvious to one of ordinary skill in the art.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. Claims 1-18, 21-23, 26, 29-32 and 34-37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hirabayashi et al., US Patent No. 5,789,031 as evidenced by applicants' admission.

Hirabayashi et al. teach a printing paper, see abstract. They also teach that the coating can be applied to one of both sides by means of an on or off machine coater, such as a curtain coater, and they also teach that the solid content of the coating color, pigments, is from about 40 to 70%, column 6, lines 13-33. Hirabayashi et al. teach in the lines above that the coating can be applied to the base paper from about 3 to 50 g/m² per side. Hirabayashi et al. also teach the use of polyvinyl alcohol as part of the coating, column 5, lines 28-38. Hirabayashi et al. teach the use the same pigments as disclosed/claimed, column 6, lines 7-12; same binders as claimed/disclosed, column 5, lines 40-52; the use of surfactants and PEO, column 4, lines 56-67; same paper or paperboard grammage as claimed, column 6, lines 22-33. Even though Hirabayashi et al. do not explicitly disclose the viscosity at the shear rate and temperature as claimed,

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applicants admits that coating slips having high solid content usually have the claimed viscosity at the claimed conditions, paragraph bridging pages 3 and 4 of the present application and since Hirabayashi et al. teach the similar if not the same coating slip at high pigments content, then the viscosity property must inherently be the same or at least the minor modification to obtain the claimed viscosity would have been obvious to one of ordinary skill in the art.

7. Claims 1-18, 21-23, 26, 29-32 and 34-37 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hirabayashi et al., US Patent No. 6,458,413.

Hirabayashi et al. teach a printing paper, see abstract. They also teach that the coating can be applied to one of both sides by means of an on or off machine coater, such as a curtain coater, and they also teach that the solid content of the coating color, pigments, is from about 40 to 70%, paragraph bridging columns 12-13. Hirabayashi et al. teach in the lines above that the coating can be applied to the base paper from about 3 to 50 g/m² per side. Hirabayashi et al. also teach the use of polyvinyl alcohol as part of the coating, column 5, lines 28-38. Hirabayashi et al. teach high viscosity coating slips, see abstract, but they are not explicit as to the viscosity at the claimed conditions, i.e., shear rate and temperature. However, applicants admit that coating slips having high solid content usually have the claimed viscosity at the claimed conditions, see paragraph bridging pages 3 and 4 of the present application and since Hirabayashi et al. teach the similar if not the same coating slip at high pigments content, then the viscosity property

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must inherently be the same or at least the minor modification to obtain the claimed viscosity would have been obvious to one of ordinary skill in the art.

27-34; same binders as claimed/disclosed, column 12, lines 35-53; same paper or paperboard grammage as claimed, column 8, lines 26-29.

Claims 19, 24-25 and 27-28 and 33 are rejected under 35 U.S.C. 103(a) as obvious over Hirabayashi et al., US Patent No. 6,458,413 B1 in view of Mitami et al., cited above.

Hirabayashi et al. teach a printing paper, coated with an aqueous solution of polyvinyl alcohol and with coating weight between 0.5 to 5 g/m², see abstract. They also teach that the coating can be applied to one of both sides by means of an on or off machine coater, such as a curtain coater, and they also teach that the solid content of the coating color, pigments, is from about 40 to 70%, column 12, line 58 through column 13, line 10. The calendering of the paper is disclosed in column 6, lines 34-38. As to the speed of the web at the coating, Hirabayashi et al. teach that the coating operation can be done either on or off-machine, and it is well known that the speed of the web in an on-machine coater is within the claimed range. Hirabayashi et al. are silent with regard to the specific claimed velocities. However, However, Mitami et al. teach a curtain coater that can be used with coating liquids at any viscosity and solid content, i.e., solid matter, and can be operated at web speed over 2000 m/min, see column 6, lines 25-51. The advantages of using such device, coater, are taught in column 3, line 55 through column 4, line 56, some of which are: minimize the quality defects due to inferior drying, web tearing, and contamination of a coating apparatus, etc. Also the coating can be done at high speed, see column 6, lines 47-51. Therefore, using the coating apparatus taught by Mitami et al. in the process taught by Hirabayashi et al. would have been obvious to one of ordinary skill in the art in

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order to obtain the advantages discussed above, i.e., improvement of the coating operation with the advantage of running at high speed, can be used with any liquid coating independently of the viscosity and solid content. The use of synthetic pigments, such as magadiite, of claim 33 would have been obvious to one of ordinary skill in the art since they are commonly used in the coating industry, see for example abstract of DD 221722, cited in IDS file on December 12, 2005.

8. Claim 21 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wittosch et al., US Patent No. 6,548,120 B1.

Wittosch et al. teach a repulpable paper which is coated with at least 2 layers one of which imparts barrier properties against moisture, grease and/or oil, column 3, lines 5-62. Wittosch et al. teach that the base coat can include pigments, column 3, lines 23-29 and they teach that the total grammage of the coat is between 1 to 16 lbs/3000 ft², (1.627-26.032 gr/m²), which falls within the claimed levels. It seems that Wittosch et al. teach all the limitations of the claims, as claimed, or at least the minor modification to obtain the claimed invention would have been obvious to one of ordinary skill in the art. In the event any differences can be shown for the product -by-process claim 1 as opposed to the product taught by the reference Wittosch such differences would have been obvious to one of ordinary skill in the art as routine modification of the product in the absence of a showing unexpected results, see *In re Thorpe*, 227 USPQ 964 (CAFC 1985).

As the afore mentioned claims are product by process claims, it is deemed that "[A]ny difference imparted by the product by process claims would have been obvious to one having ordinary skill in the art at the time the invention was made because where the examiner has found a substantially similar product as in the applied prior art the burden of proof is shifted to the

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applicants to establish that their product is patentably distinct, ..." In re Brown, 173 U.S.P.Q. 685, and In re Fessmann, 180 U.S.P.Q. 324.

Further, "[P]rocess limitations are significant only to the extent that they distinguish the claimed product over the prior art product." In re Luck, 177 U.S.P.Q. 523 (1973)

9. Claims 1-37 are rejected under 35 U.S.C. 103(a) as obvious over Yokota, WO 01/768884 A1, (Equivalent US Patent No. 6,746,718 has been used as the translation) in view of Kustermann, US Patent No. 6,146,690 with or without Mitami et al., cited above.

Yokota teaches a method of making a coated substrate by coating said substrate using a free flowing curtain coater, column 2, lines 20-30 and column 17, lines 17-40. The curtain can be multilayered, see column 17, lines 15-40, forming a composite multilayer curtain. In column 17, lines 30-40, Yokota teaches that the curtain can be formed with three layers and that the layers can contain at least one pigment, that could be talc, calcium carbonate, kaolin, etc., see column 13, lines 15-30. Yokota teaches also the use of polyvinyl alcohol as a binder, see, column 12, lines 40-55. Yokota is silent with respect to the solid content of the coating or the speed of the web at the coating operation. However, Kustermann teaches that it is known in curtain coating to provide solids content between 5 to 80%, preferably between 30 to 75%, see column 2, lines 50-60 and that the web speed can be greater than 600 m/min, preferably greater than 1000 m/min. Moreover, Mitami et al. teach a curtain coater that can be used with coating liquids at any viscosity and solid content, i.e., solid matter, and can be operated at web speed over 2000 m/min, see column 6, lines 25-51. The advantages of using such device, coater, are taught in column 3, line 55 through column 4, line 56, some of which are:

minimize the quality defects due to inferior drying, web tearing, and contamination of a coating apparatus, etc. Also the coating can be done at high speed, see column 6, lines 47-51. Therefore, the use of the claimed solid content would have been obvious to one of ordinary skill in the art since it is conventional, see Kustermann, and the velocity of the web as claimed would have been obvious to one of ordinary skill in the art, since he/she would have reasonable expectation of success if the coating process is carried out at the claimed speed in view of the teachings of Kustermann and/or Yokota. Note that using the coating apparatus taught by Mitami et al. in the process taught by Yokota would have been obvious to one of ordinary skill in the art in order to obtain the advantages discussed above, i.e., improvement of the coating operation with the advantage of running at high speed, can be used with any liquid coating independently of the viscosity and solid content. Note that applicants admit that coating slips having high solid content usually have the claimed viscosity at the claimed conditions, paragraph bridging pages 3 and 4 of the present application and since Kustermann teaches the similar if not the same coating slip at high pigments content, then the viscosity property must inherently be the same or at least the minor modification to obtain the claimed viscosity would have been obvious to one of ordinary skill in the art.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure in the art of "Free flow curtain coating."

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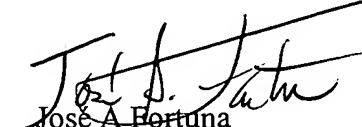
US Patent No. 5,641,544 to Melancon et al., teaches a method and apparatus for applying thin fluid coatings, and suggests the use of a curtain coater at web speed up to 2000 m/min, which falls within the claimed range.

US Patent No. 5,876,815, to Sandstrom et al., teaches a multilayer printing paper including an oil and grease resistant barrier.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José A. Fortuna whose telephone number is 571-272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


José A. Fortuna
Primary Examiner
Art Unit 1731

JAF